NE Series

ne4400 | ne4800 | ne8800 System Processors

NE Series specifications

Connecting and controlling an audio processor for networked systems has now been simplified with Ashly's NE-Series ne4400, ne4800 and ne8800 digital signal processors. These Network Enabled (NE) processors offers ease of use, setup and control using standard 10/100 Ethernet protocol and Protea NE Software. No special outboard control units are needed.

Standard units are analog line input/output format of 4x4 (4400), 4x8 (4800), and 8x8 (8800) with four option bays supporting network audio, AES/EBU, and mic input options. The DSP signal processing library is extensive and utilizes multiple SHARC 32-bit/96kHz processors with sample rates of either 48 KHz or 96 KHz. Processing blocks include an 8x8 matrix mixer, a full array of variable Q graphic and parametric equalization, crossover filters to 8th-order Butterworth, Bessel, Linkwitz, and Notched-Linkwitz, an extremely advanced automatic feedback suppressor, autolevelers, compressors, matrix duckers, limiters, frequency-keyed noise gates, time delay up to 1365 ms on every channel, sinewave, pink noise, and white noise generators.

All programming is accomplished using standard 10/100 Ethernet or RS-232 protocol and Ashly's Protea NE Software on a PC platform. Hot-plug software control allows you to plug any function into any channel block even when running live audio with no latency or recompiling necessary. Automatic DHCP network IP configuration reduces network set up time. No front panel controls and multi-level software security with password access assures you a tamperproof audio system.

Additional features include: network audio routing at matrix mixer to inputs from outputs, or in/out of matrix mixer, 8 link groups on most functions, automatic master clock switchover between network, word clock, AES/EBU, and internal clock, a high-performance analog audio path – dynamic range exceeding 114 dB, support of Ashly digital remote controls, programmable 8 channel 5V logic input or output control, 8 channels of 0 to 5V analog level control, word clock input and output and a front panel full meter bridge with mute keys.

Available hardware options are: 4-channel mic/line input option with software controllable gain and phantom power, CobraNet network audio input and output, EtherSound network audio input and output, AES/EBU digital audio input and AES/EBU digital audio output.

Features:

- Three models - 4x4, 4x8, and 8x8 format
- Optional mic inputs, CobraNet, EtherSound, AES/EBU
- 10/100 Ethernet and RS-232 computer interface Is standard
- Extensive DSP Available
- Easy and intuitive user interface
- 24-bit A/D–D/A audio resolution
- 32-bit SHARC DSPs
- Sample rates of 48 KHz and 96 KHz
- Hot-plug software control
- Automatic DHCP network IP configuration
- Butterworth, Bessel, Linkwitz, and Notched-Linkwitz filters
- Advanced automatic feedback suppression
- Word clock input and output
- Euroblock connectors for audio, preset recall, DC remote level control and data in/out
- Six dedicated remote controls for Level, Logic I/O and Programmable Functions
- Third party control friendly
- Input and output metering
- Multi-level Security
- Five year worry-free warranty

Rear panel:

- 10/100 Ethernet port
- RS-232 port
- Euroblock inputs
- Euroblock outputs
- Four option bays
- Word clock in and out
- Remote level control
- Logic I/O
- Data in and out ports
- On/off switch

Accessories

- WR-1 2-ch Level Control
- WR-2 Four Position Switch
- WR-5 Programmable Wall Remote
- RD/RW8C 8-ch Level Control
- neWR-5 Network Programmable Remote
- neRD-8/16 Network Fader Remote

ASHLY

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Overall Sonic Performance *	**Analog in, digital out**	**Digital in, analog out**	**Analog in, analog out[2]**	**Digital in, digital out**
Frequency Response, 20 Hz – 20 kHz:	+/- 0.1 dB	+/-0.25 dB	+/- 0.25 dB	NA[3]
Dynamic Range, 20Hz-20kHz, unweighted:	> 115 dB	> 114 dB	> 114 dB	NA[3]
THD+N, 1kHz, +20dBu analog (-1dBFS digital):	< 0.001 %	< 0.002 %	< 0.002 %	< 0.00001 %
Latency at 48 KHz (96 kHz)[4]:	1.42 ms (0.71 ms)	0.90 ms (0.45 ms)	2.21 ms (1.11 ms)	0.10 ms (0.05 ms)

Audio Inputs	**Analog**	**Digital**
Input Type:	Active balanced Euroblock	Transformer balanced female XLR
Input Impedance:	20 k ohms	110 ohms
Max Input Level:	+20 dBu	7.0 Vpp
Audio Outputs		
Output Type:	Servo-balanced Euroblock	Transformer balanced male XLR
Output Impedance:	20 ohms	110 ohms
Max Output Level:	+20dBu	5.0 Vpp

Digital Audio Hardware	
Sample Rates:	48 kHz, 96 kHz
DSP Processing:	32-bit floating-point Sharc processor array
Audio Input Source Selection:	Selectable in adjacent channel pairs from analog, digital, or network inputs
Network Audio Routing:	Selectable between input/output or internal to matrix mixer
Digital Audio Output Jitter:	0.5 ns average, 1.0 ns peak
Digital Control	
Ethernet Control	Standard RJ45 10/100 Ethernet with auto-configuration
RS-232 Control	Standard female Dsub9 jack
4-pin active remote	4-pin Euroblock for phantom-powered bi-directional remotes
Logic Inputs	9-pin Euroblock for (8) assignable 5V logic inputs
Logic Outputs	Shared with logic inputs. +12V at 10mA output high, 100mA input low
Analog Control	
Remote attenuators	10-pin Euroblock for (8) assignable 0-5 VDC passive remote attenuators
General	
Power Requirements:	90 – 240 VAC, 50 – 60 Hz, 70 W maximum
Shipping weight:	14 lbs. (6.35 kg)
Dimensions:	19.0" L x 3.5" H x 8.5" D (48.26 cm x 8.89 cm x 21.59 cm)
Environmental:	40-120 deg. F, (4-49 deg, C) noncondensing

DSP Functions	
Automatic Feedback Suppressor	
Filters:	12
Detection frequency range:	25 Hz – 20 kHz
Filter Modes:	Floating, restricted, manual, locked
Sensitivity Control:	5 levels
Floating Filter Reset:	5 seconds to 24 hours
Parametric EQ	10-, 6-, 4-, and 2-band
Graphic EQ	31-band, constant or proportional Q
Crossover Filters	
Type:	Linkwitz-Riley, Notched Linkwitz-Riley, Bessel, Butterworth
Low-Pass and High-Pass Filters	
Type:	Linkwitz-Riley, Notched Linkwitz-Riley, Bessel, Butterworth
Notch	1/64 oct. to 4 octaves
Frequency Range:	20 Hz – 20 kHz, 1 Hz increments
Band-Pass	
Frequency Range:	20 Hz – 20 kHz, 1 Hz increments
Bandwidth:	1/64 oct. to 4 octaves
All-Pass	Second-Order (-180 degrees)
Vari-Q LPF and HPF	Second-order
Frequency Range:	20 Hz – 20 kHz,1 Hz increments
Filter Q:	Adjustable from 0.267 to 3.047
Shelving Filters	Selectable 6 db/oct. or 12 dB/oct.
Frequency Range:	20 Hz – 20 kHz in 1 Hz increments
Boost/cut range:	-15 dB to +15 dB, 0.1 dB increments
Additional DSP Blocks	
Delay	Up to 1.365 seconds
Ducker	Duck at input or in mixer
Gate	Frequency keyable
Signal Generator	Sinewave, white and pink noise
Matrix Mixer	
Compressor	
Limiter	
Autoleveler	

Notes:
0dBu = 0.775 VRMS
1) Measured 20 Hz – 20 kHz unweighted using AES17 LPF at 48 kHz samle rate.
2) Analog in to analog out measured using internal master clock.
3) Zero noise or signal amplitude variation introducted in digital domain.
4) Latency of network audio link is additional to latency of digital audio processor.
All features and specifications are preliminary and subject to change before release

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Specifications subject to change without prior notice.
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NE Series Signal Processors

August 2010

Architect & Engineering Specs

ne8800
The digital signal processor unit shall be analog line input / output with four option bays for supporting Cobranet or EtherSound network audio, AES/EBU, and mic input options. The processor shall consist of eight inputs and eight outputs. The processor shall use fixed-path architecture with hot-plugable audio functions anywhere in the signal path to reduce set-up time. All control and monitoring programming shall be accomplished using a PC platform and standard Ethernet network connection or RS-232 protocol. Multi-level security with password access and no front panel controls shall insure tamper-resistant operation. Input / output channel processing blocks shall include a full array of variable-Q graphic and parametric equalization. The processor shall have crossover filters to 8th order Butterworth, Bessel, Linkwitz, and Notched-Linkwitz. The processor shall have an advanced automatic feedback suppressor, autolevelers, compressors, matrix duckers, limiters, frequency-keyed gates and time delay to 1365ms. Sinewave, pink noise, and white noise generators shall be included in the processor. A matrix mixer shall allow any input to be routed to any output at any level. A gain-sharing automixer may also be enabled on any input signal of any output mixer. Rear panel Euroblock connectors shall include eight logic input or output connections, plus eight remote potentiometer level controls. Word clock input and output BNC connections shall be provided for digital audio frame locking to a house sync. The DSP processor shall mount in a standard 19" rack using 2 spaces (3.5" high).

The digital signal processor shall be an Ashly DSP Matrix Mixer model **ne8800**

ne4800
The digital signal processor unit shall be analog line input / output with four option bays for supporting network audio, AES/EBU, and mic input options. The processor shall consist of four inputs and eight outputs. The processor shall use fixed-path architecture with hot-plugable audio functions anywhere in the signal path to reduce set-up time. All control and monitoring programming shall be accomplished using a PC platform and standard Ethernet network connection or RS-232 protocol. Multi-level security with password access and no front panel controls shall insure tamper-resistant operation. Input / output channel processing blocks shall include a full array of variable-Q graphic and parametric equalization. The processor shall have crossover filters to 8th order Butterworth, Bessel, Linkwitz, and Notched-Linkwitz. The processor shall have an advanced automatic feedback suppressor, autolevelers, compressors, matrix duckers, limiters, frequency-keyed gates and time delay to 1365ms. Sinewave, pink noise, and white noise generators shall be included in the processor. A matrix mixer shall allow any input to be routed to any output at any level. A gain-sharing automixer may also be enabled on any input signal of any output mixer. Rear panel Euroblock connectors shall include eight logic input or output connections, plus eight remote potentiometer level controls. Word clock input and output BNC connections shall be provided for digital audio frame locking to a house sync. The DSP processor shall mount in a standard 19" rack using 2 spaces (3.5" high).

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